

cystiæ is soon divided by a septum, and if at this moment it did not rise above the epidermis, it would be impossible to say decidedly whether it was a cystia or a spiracle in course of development. But afterwards the two cells of the cystia each divide into two others, forming four cells, which by a further subdivision are converted into the eight elements composing the perfect organ.

All the stomata of the lower surface of the leaves, and those of the stalk, give place in this manner to cystiæ, whilst the transformation only takes place in the minority of those placed on the upper surface of the leaves. Thus nature makes use of an organ already existing to form a new apparatus.—*Comptes Rendus*, 18th June 1855, p. 1291.

Description of a new Tanager of the Genus Calliste.

BY PHILIP LUTLEY SCLATER, M.A.

CALLISTE VENUSTA, Sclater. *C. læte cæruleo-viridis*: interscapulio alis caudaque nigris, eodem viridi limbatis: fronte, loris, gula summa et auchenio nigris: pileo lateribusque capitis flavis: ventre medio crissoque pallide ochraceis: rostro nigro: pedibus pallidis.

Long. tota 4·5; alæ 2·5; caudæ 1·5 poll. Angl.

Hab. In Nova Grenada et in rep. Equatoriana provincia Quixos.

I have been acquainted with this pretty *Calliste* for some time, but have always considered it as the *xanthocephala* of Tschudi, and have described it as such in my "Synopsis of the genus *Calliste*" in the Contributions to Ornithology. But having lately had the opportunity of examining Tschudi's type specimens in the Neuchâtel Museum, I find that his *Callospiza xanthocephala* is not this bird, but the same as my *Calliste lamprotis* (Cont. to Orn. 1851, p. 65). That species closely resembles the present, but may be distinguished by its orange cap and brilliant golden-yellow ear-coverts.

The extreme inaccuracy of Dr. Tschudi's figure, which looks more like this species than the other, must be my excuse for committing this error, in which however I am not alone, as even in the Berlin Museum (where Tschudi's types ought to be known) I have observed the present bird called *xanthocephala*.

Mr. Gould's collection from Quixos contained examples of this species. My own specimens are from Santa Fe di Bogota.—*Proc. Zool. Soc.*, Nov. 14, 1854.

On the Spermatophora of the Crickets. By C. LESPÉS.

In the Crickets the ejaculatory canal does not turn back as in nearly all insects to form the penis. During copulation, which is accompanied by some singular manœuvres, the male introduces into the vulva of the female the extremity of a small apparatus which contains a drop of the seminal fluid. This spermatophore consists of a small horny vesicle, and of a slender, flattened appendage; the latter is the only part that penetrates into the vulva. In the course of a few hours the female drops the whole apparatus.

As soon as the male has lost one of these spermatophora, a new

one takes its place. It may easily be seen at the extremity of the abdomen by raising the dorsal plate which terminates it, and this reproduction may be observed repeatedly upon the same male.

The spermatophore is produced by an appendage of the genital segment,—the ventral plate of this segment being flattened posteriorly and converted into a twisted glandular plate. When the spermatophore is formed, the vesicle is expelled from the secreting apparatus, and takes its place between two fleshy palettes, by which it is supported at the moment of copulation. It remains in this position for a longer or shorter time, but if the male is prevented from copulating he will after a time allow it to drop.—*Comptes Rendus*, 2nd July 1855, p. 28.

METEOROLOGICAL OBSERVATIONS FOR JUNE 1855.

Chiswick.—June 1. Overcast. 2. Cloudy and fine: very clear. 3. Fine: cloudy: overcast. 4. Heavy clouds: very fine. 5. Cloudy: fine. 6. Hot and dry: rain. 7. Very fine. 8. Cloudy: very fine. 9. Showery. 10, 11. Very fine. 12. Very fine: clear at night. 13. Slight haze. 14. Overcast: rain. 15. Cloudy: fine: rain. 16. Fine: showery: overcast: heavy rain. 17. Cloudy: slight showers. 18. Clear: cloudy: rain. 19. Overcast and fine. 20. Light clouds: fine: clear: *frosty at night*. 21. Clear and fine. 22. Fine: very dry air. 23. Overcast. 24. Very fine. 25. Cloudy and fine. 26. Overcast: very fine. 27. Dry haze: very fine. 28—30. Very fine.

Mean temperature of the month	57°·98
Mean temperature of June 1854	56·93
Mean temperature of June for the last twenty-nine years...	60·39
Average amount of rain in June	1·89 inch.

Boston.—June 1. Cloudy: rain A.M. 2. Cloudy. 3, 4. Fine. 5. Cloudy. 6. Fine. 7. Cloudy: rain A.M. 8. Cloudy. 9. Fine: rain P.M. 10. Fine: rain with thunder P.M. 11. Fine. 12, 13. Cloudy. 14. Rain A.M. and P.M. 15. Cloudy: rain A.M. and P.M. 16. Fine. 17, 18. Cloudy: rain P.M. 19, 20. Cloudy. 21, 22. Fine. 23—27. Cloudy. 28—30. Fine.

Sandwick Manse, Orkney.—June 1. Bright A.M.: rain P.M. 2. Damp A.M.: foggy P.M. 3. Hazy A.M.: cloudy P.M. 4. Hazy A.M.: clear P.M. 5. Bright A.M.: clear P.M. 6. Rain, thunder A.M.: drops P.M. 7. Foggy A.M.: cloudy P.M. 8. Bright, fine A.M.: foggy P.M. 9. Showers A.M.: showers, foggy P.M. 10. Cloudy A.M.: clear P.M. 11. Bright A.M.: cloudy P.M. 12. Rain A.M. and P.M. 13. Foggy A.M. and P.M. 14. Clear A.M. and P.M. 15. Cloudy A.M.: clear P.M. 16. Showers A.M.: drops P.M. 17. Drizzle, showers A.M. and P.M. 18. Bright A.M.: drizzle, showers P.M. 19. Clear A.M. and P.M. 20. Cloudy A.M.: small rain P.M. 21. Foggy A.M. and P.M. 22. Foggy A.M.: bright P.M. 23. Bright A.M. and P.M. 24. Bright A.M.: bright, rain P.M. 25. Rain A.M. and P.M. 26. Drops A.M.: rain P.M. 27. Bright A.M.: clear P.M. 28. Clear, fine A.M.: bright, fine P.M. 29, 30. Bright, fine A.M. and P.M.

Mean temperature of June for twenty-eight previous years .	52°·78
Mean temperature of this month	52·23
Mean temperature of June 1854	52·86
Average quantity of rain in June for fifteen previous years .	2·21 inches.